IN THE CLAIMS:

1. (Currently Amended) An immunosensor system with reduced interference, comprising:

a first immunosensor that generates a signal based on ~~the formation of~~ a sandwich between an immobilized antibody, a target analyte and a labeled antibody,

wherein a portion of the signal arises from non-specific binding of the labeled antibody in the region of the first immunosensor, and

a second immunosensor that acts as an immuno-reference sensor and generates a signal that is the same as or predictably related to the degree of non-specific binding which occurs in the region of the first immunosensor, and has an immunocomplex between another immobilized antibody and an endogenous or exogenous protein that is in a sample and that is not the target analyte.

2. (Original) The immunosensor system of claim 1, wherein the first and second immunosensors are electrochemical sensors.

3. - 4. (Canceled)

5. (Previously Presented) The immunosensor system of claim 1, wherein the system is in a disposable cartridge for measuring analytes in the sample.

6. (Previously Presented) The immunosensor system of claim 1, wherein the target analyte is selected from the group consisting of troponin I, troponin T, creatine kinase MB, procalcitonin, hCG, NTproBNP, proBNP, BNP and myoglobin, in the sample.

7. (Original) The immunosensor system of claim 5, wherein the immobilized antibody in the second immunosensor is to a plasma protein.

8. (Canceled)

9. (Original) The immunosensor system of claim 5, wherein the endogenous or exogenous protein in the sample is present at a concentration sufficient to bind more than 50% of the available immobilized antibody on the second immunosensor within about 100 seconds of the sample contacting the immunosensor system.

10. (Original) The immunosensor system of claim 5, wherein the immobilized antibody in the second immunosensor has an affinity constant of about 1 x 10(7) to 1 x 10(15).

11. (Original) The immunosensor system of claim 1, wherein both antibodies are immobilized on microparticles of diameter in the range 0.01-5.0 um.

12. (Previously Presented) The immunosensor system of claim 1, wherein the endogenous or exogenous protein is present in the sample at a concentration of at least three orders of magnitude above the affinity constant of the antibody in the second immunosensor.

13. - 68. (Canceled)

69. (Previously Presented) The immunosensor system of claim 6, wherein the sample comprises a blood sample.

70. (Previously Presented) The immunosensor system of claim 12, wherein the sample comprises a blood sample.